

WHAT IS CLAIMED IS:

1. A perpendicular magnetic recording head,  
comprising:

5 a main pole configured to generate a recording  
magnetic field in a perpendicular direction; and

an auxiliary pole connected to the main pole on  
a trailing side to the main pole and having  
a multilayered structure in which a nonmagnetic layer  
is sandwiched between magnetic layers.

10 2. A perpendicular magnetic recording head,  
comprising:

a main pole configured to generate a recording  
magnetic field in a perpendicular direction;

15 an auxiliary pole connected to the main pole on  
a leading side to the main pole; and

a write shield arranged apart from the main pole  
on a trailing side to the main pole and having  
a multilayered structure in which a nonmagnetic layer  
is sandwiched between magnetic layers.

20 3. The perpendicular magnetic recording head  
according to claim 2, wherein the write shield has  
such a thickness that is thicker in each of edge  
portions than in a central portion.

25 4. The perpendicular magnetic recording head  
according to claim 2, wherein the write shield has  
such a number of stacks of the magnetic layer and the  
nonmagnetic layer that is larger in each of edge

portions than in a central portion.

5        5. The perpendicular magnetic recording head according to claim 2, wherein the auxiliary pole has a multilayered structure in which a nonmagnetic layer is sandwiched between magnetic layers.

6. A magnetic disc apparatus, comprising:  
a double layered perpendicular recording medium comprising a soft magnetic underlayer and a perpendicular recording layer, which are formed on  
10 a substrate; and

a perpendicular magnetic recording head comprising a main pole configured to generate a recording magnetic field in a perpendicular direction, and an auxiliary pole connected to the main pole on a trailing side to the main pole and having  
15 a multilayered structure in which a nonmagnetic layer is sandwiched between magnetic layers.

7. A magnetic disc apparatus, comprising:  
a double layered perpendicular recording medium  
20 comprising a soft magnetic underlayer and a perpendicular recording layer, which are formed on a substrate; and

a perpendicular magnetic recording head comprising a main pole configured to generate  
25 a recording magnetic field in a perpendicular direction, an auxiliary pole connected to the main pole on a leading side to the main pole, and a write

shield arranged apart from the main pole on a trailing side to the main pole and having a multilayered structure in which a nonmagnetic layer is sandwiched between magnetic layers.

5           8. The magnetic disc apparatus according to claim 7, wherein the write shield has such a thickness that is thicker in each of edge portions than in a central portion.

10           9. The magnetic disc apparatus according to claim 7, wherein the write shield has such a number of stacks of the magnetic layer and the nonmagnetic layer that is larger in each of edge portions than in a central portion.

15           10. The magnetic disc apparatus according to claim 7, wherein the auxiliary pole has a multilayered structure in which a nonmagnetic layer is sandwiched between magnetic layers.